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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,332	09/22/2003	Kevin J. Anibas	TLR-5152 US	4175

7590 05/20/2004
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EXAMINER

ESHETE, ZELALEM

ART UNIT PAPER NUMBER

3748

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/664,332

Applicant(s)

ANIBAS, KEVIN J.

Examiner

Zelalem Eshete

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-25 is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 09/22/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1,2,11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klomp (4,309,966) in view of Yazdi (5,694,890).

Regarding claim 1: Klomp discloses a valve system for charging and exhausting of combustion chambers of internal combustion engines including; (a) a cylinder head adapted for securing to a multi-level combustion chamber, the cylinder head including asymmetrical ports which open into the combustion chamber on separate levels (see figure 1); (b) each port controlled by a valve member larger than the port, the valve member of similar shape as the port, each valve member providing a conical sealing area for contacting the port periphery (see figures 1,2); (c) intake valve member having a non-centered cylindrical stem operatively traveling in a cylindrical valve guide sealed by a valve guide seal, each valve stem protruding through an end of the valve guide opposite the combustion chamber to locate a valve spring and accept a follower which captures the valve spring (see figure 3); and (d) the follower operatively associated with a valve operating assembly to selectively provide axial movement and rotational

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movement to each valve member and valve stem (see column 4,6-50); (e) whereby the valve operating assembly first moves the valve member a nominal distance from the port periphery to unseal the port, then rotates the valve member in one direction to open the associated port, next rotates the valve member in an opposite direction to close the associated port, and finally moves the valve member a nominal distance to contact the port periphery and seal the port (see column 4, lines 50 to 67).

Klomp fails to disclose a valve providing a flat sealing area for contacting the port periphery and providing oscillating exhaust valve.

However, Yazdi teaches a valve providing a flat sealing area for contacting the port periphery (see figure 2).

It would have been obvious to one having an ordinary skill in the art at the time the invention was made to modify the valve seating arrangement of Klomp to that of a flat sealing area as taught by Yazdi in order to implement an alternative design to that of conical sealing area.

With regard to the oscillating exhaust valve, it would have been obvious to one having ordinary skill in the art at the time the invention was made to duplicate the oscillating intake valve to that of exhaust valve, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Regarding claim 2: Klomp discloses the valve operating assembly comprises a camshaft assembly operatively associated with each follower and valve member, in that

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Klomp discloses, actuation of the valve is done for example using a rocker arm engaging the free end of the stem (see column 4, lines 8 to 13).

Regarding claims 11,12: Klomp discloses the claimed invention except for specifying follower and stem as separate elements fitted together using various means. It would have been obvious to one having ordinary skill in the art at the time the invention was made to decompose the follower/stem integral part into separately fitted parts, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

Regarding claim 13: Klomp discloses the follower includes a driven "pin", having an axis a selected distance from the valve stem, for engaging the valve operating assembly (see figure 3).

3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Klomp in view of Yazdi as applied to claim 1 above, and further in view of Higashi et al. (6,196,180).

Klomp in view of Yazdi discloses the claimed invention as recited above; however, fails to disclose the ports are oriented to allow a single camshaft assembly to actuate the valve members controlling the ports.

However, Higashi teaches using a single camshaft assembly to actuate the valve members controlling the ports (see column 12, lines 29 to 35).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Klomp in view of Yazdi by providing a single camshaft to actuate the valves as taught by Higashi in order to reduce the number of parts.

4. Claims 9,10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klomp in view of Yazdi as applied to claim 1 above, and further in view of Simmons et al. (4,113,268).

Regarding claim 9: Klomp in view of Yazdi discloses the claimed invention as recited above; however, fails to disclose each valve seating area includes a seal fitted to the seating surface.

However, Simmons teaches a valve seating area includes a seal fitted to the seating surface (see abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Klomp in view of Yazdi by providing a a seal fitted to the seating surface as taught by Simmons in order to enhance the sealing performance of the valves.

Regarding claim 10: Simmons discloses a groove in the valve seating surface to accept the seal therein (see abstract).

Allowable Subject Matter

5. Claims 14-25 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zelalem Eshete whose telephone number is (703) 306-4239. The examiner can normally be reached on Monday to Friday.

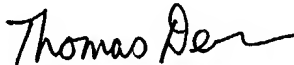
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (703) 308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Zelalem Eshete
Examiner
Art Unit 3748

Z


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